NOTES ON THE BEHAVIOUR OF *ADELA CUPRELLA* ([D. & S.]) (LEP.: INCUVARIIDAE).

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THE LONG-HORN moth *Adela cuprella* is a species I had been looking for off and on for five or six years. During this period I visited Cothill Fen and Burnwood Forest in Oxfordshire, a large area of sallows I know at Twyford in Berkshire and Burnham Beeches (VC24) in Berkshire (some of these several times over the years) to look for *cuprella* in season. On 29 March 1998 I found it by chance at MV in Ashley Hill Forest, Berkshire, and a couple of days later saw what I believed were others in flight by day around the tops of sallow bushes at the same locality. In an attempt to confirm this sighting I returned to these woods on 14 March 1999 to search for it again. On this occasion none were seen and I surmised that this visit was a little early in the year. Subsequent to this, on 27 March 1999, again by chance I discovered three males of this species in flight around sallows growing beside the road near Sindlesham Mill at Lower Earley near Reading in Berkshire. The weather was sunny and hot for the season, with a light westerly breeze. The moths were seen between 11.00 and 12.30 hrs.

Having observed adults at Lower Earley earlier in the day I went to Ashley Hill Forest that afternoon and saw several adelids, all males, in flight around high sallows. On this occasion, by virtue of a net attached to the end of a roach pole (Figure 1), I was able to confirm that these were indeed *A. cuprella*. Moths were observed on the wing between 14.30 and 16.00 hrs.

Encouraged by these records and spurred on by comments from Brian Baker who I had informed of these sightings, on 28 March I again looked for *cuprella* around the sallows near Sindlesham Mill. The weather was less than ideal, there being a stiff breeze blowing, and I failed to find it here on this occasion despite working the area from 10.00 to 13.30 hrs. That afternoon I decided to visit Dinton Pastures Country Park at Winnersh (about two miles from Sindlesham Mill) to search for it in a spot I remember thinking looked a promising *cuprella* site a couple of years earlier. The conditions were still less than ideal as the breeze had strengthened. However, during a calm spell around 15.00 hrs. a male was seen to take flight from the high flowering branches, fly for 30 seconds or so and then settle on the flowers as soon as the wind strengthened again. Several males (at least three and perhaps more) were seen in the same area here the next day during a brief visit between 14.30 and 15.00 hrs.

On 2 April 1999 I revisited the sallows at Sindlesham Mill where I had seen males in late March. This time the weather was sunny, hot and calm. I searched these and other sallows nearby that I had not examined before, between 09.30 and 14.00 hrs. Here a further two males were noted, the first at 11.10 hrs., together with three females. These females, the first I have seen, were all observed between 13.00 and 14.00 hrs. A further visit to this site on 9 April between 11.00 and 14.00 hrs., again during ideal weather conditions, failed to turn up the adults I had seen earlier that week, or any others.

These observations suggest that *A. cuprella* flies mostly in calm weather conditions and requires bright sunshine in order to do so. As soon as even a light cloud shrouded the sun all flight activity stopped, to be resumed again almost the instant bright sunshine was restored. No flight was observed on sunny hot days with a strong wind. The earliest time that I observed adults in flight was 11.00 hrs., so *cuprella* does not appear to be an early riser. Perhaps warming of the air to a critical point is required before it will take to the wing. Males appear to take flight first, with the females flying an hour or two later (although the numbers of observations concerning this aspect of their biology are somewhat limited). All flight activity was observed to have ceased by 16.00 hrs. Also it appears that their flight season is short,

Figure 1. A "pole net" in use at Ashley Hill Forest.

Photograph courtesy of P. Verdon

as at Sindlesham moths were seen over a seven day period, from 27 March to 2 April. Of course, they may have been on the wing a few days earlier and/or later than this, but by 9 April cuprella's season was over at this site. No further examples were seen here, or elsewhere, this Spring despite visiting the *cuprella* sites at Dinton Pastures and Ashley Hill Forest on 10 April and Sindlesham Mill the following day.

In volume 1 of *MBGBI* (1976) John Heath and Ted Pelham-Clinton (both of whom I can assure readers I have the utmost respect for) state that *cuprella* is notorious for being common one year and apparently absent in following seasons. However, in this work no mention is made of its ability to pass up to three winters in the larval state (Emmet, Life-cycle table, *MBGBI* **7(2)**, p 76, 1991). As the adult requires sunny, warm and calm weather conditions during a limited period of the day and at a time of year when, generally speaking, the weather is seldom ideal, opportunities for recorders to note its' presence at a site are probably very limited. This being the case it appears that *A. cuprella* is not an easy species to record, especially when one considers its' small size and altitude of flight. Similarly, the moths opportunities for mate location, pairing and oviposition are probably also limited by the weather conditions during the adults flight period. This, coupled with variations in predation pressure from season to season and its' ability to survive for up to three years in the larval stage mean that *A. cuprella* has evolved a strategy for surviving unfavourable seasons. Hence, the years of abundance followed by seasons of extreme scarcity, which this species is notorious for, are not surprising.

Variation in abundance from season to season is a feature of the population dynamics of many insects but is particularly pronounced with this species. It would be interesting, though I suspect quite difficult, to investigate what environmental cues are involved in protraction of the larval stage.

Tawny Pinion *Lithophane semibrunnea* Haw. (Lep.: Noctuidae) in north Yorkshire

On the morning of 3 May 2000, I recorded a single *Lithophane semibrunnea* in the immediate vicinity of my m.v. light at Eddlethorpe near Malton in north Yorkshire (technically in Watsonian vice county 61, East Yorkshire). Heath and Emmet (1983. *The Moths and Butterflies of Great Britain and Ireland*, Vol.10), have this species occurring no further north than South Lincolnshire in the east, and Blackpool in the west. The trap site is Manor Farm, an all-arable enterprise on which UAP, an agricultural chemical merchant, is undertaking numerous initiatives to increase biodiversity. There are mature hedgerows and a fragment of ancient woodland containing this moth's foodplant, ash *Fraxinus excelsior,* in the immediate vicinity of the trap site.– W. R. Meek, Centre for Ecology and Hydrology, Monks Wood, Huntingdon, Cambs PE28 2LS.